



#7

SEQUENCE LISTING

<110> William, Fodor

<120> ENGINEERED RECOMBINANT MOLECULE THAT REGULATES HUMORAL AND
CELLULAR EFFECTOR FUNCTIONS OF THE IMMUNE SYSTEM

<130> 1087-19

<140> 09/928,267

<141> 2001-10-08

<160> 27

<170> PatentIn version 3.2

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 <213> pig and human

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 <211> 261
 <212> PRT
 <213> pig and human

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Ala Val Phe Cys His Ser Gly His Ser Leu His Met His Val Ala Gln
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Pro Ala Val Val Leu Ala Asn Ser Arg Gly Val Ala Ser Phe Val Cys
 35 40 45

Glu Tyr Gly Ser Ala Gly Lys Ala Ala Glu Val Arg Val Thr Val Leu
 50 55 60

Arg Arg Ala Gly Ser Gln Met Thr Glu Val Cys Ala Ala Thr Tyr Thr
 65 70 75 80

Val Glu Asp Glu Leu Thr Phe Leu Asp Asp Ser Thr Cys Thr Gly Thr
 85 90 95

Ser Thr Glu Asn Lys Val Asn Leu Thr Ile Gln Gly Leu Arg Ala Val
 100 105 110

Asp Thr Gly Leu Tyr Ile Cys Lys Val Glu Leu Leu Tyr Pro Pro Pro
 115 120 125

Tyr Tyr Val Gly Met Gly Asn Gly Thr Gln Ile Tyr Val Ile Asp Pro
 130 135 140

Glu Pro Cys Pro Asp Ser Asp Phe Gly Gly Gly Gly Gly Gly Met Gln
 145 150 155 160

Cys Tyr Asn Cys Pro Asn Pro Thr Ala Asp Cys Lys Thr Ala Val Asn
 165 170 175

Cys Ser Ser Asp Phe Asp Ala Cys Leu Ile Thr Lys Ala Gly Leu Gln
 180 185 190

Val Tyr Asn Lys Cys Trp Lys Phe Glu His Cys Asn Phe Asn Asp Val
 195 200 205

Thr Thr Arg Leu Arg Glu Asn Glu Leu Thr Tyr Tyr Cys Cys Lys Lys
 210 215 220

Asp Leu Cys Asn Phe Asn Glu Gln Leu Glu Asn Gly Gly Thr Ser Leu
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Ser Glu Lys Thr Val Leu Leu Leu Val Thr Pro Phe Leu Ala Ala Ala
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Trp Ser Leu His Pro
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<213> pig and human

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Pro Ala Val Val Leu Ala Asn Ser Arg Gly Val Ala Ser Phe Val Cys
35 40 45

Glu Tyr Gly Ser Ala Gly Lys Ala Ala Glu Val Arg Val Thr Val Leu
50 55 60

Arg Arg Ala Gly Ser Gln Met Thr Glu Val Cys Ala Ala Thr Tyr Thr
65 70 75 80

Val Glu Asp Glu Leu Thr Phe Leu Asp Asp Ser Thr Cys Thr Gly Thr
85 90 95

Ser Thr Glu Asn Lys Val Asn Leu Thr Ile Gln Gly Leu Arg Ala Val
100 105 110

Asp Thr Gly Leu Tyr Ile Cys Lys Val Glu Leu Leu Tyr Pro Pro Pro
115 120 125

Tyr Tyr Val Gly Met Gly Asn Gly Thr Gln Ile Tyr Val Ile Asp Pro
130 135 140

Glu Pro Cys Pro Asp Ser Asp Phe Gly Gly Gly Gly Gly Gly Met Gln
145 150 155 160

Cys Tyr Asn Cys Pro Asn Pro Thr Ala Asp Cys Lys Thr Ala Val Asn
165 170 175

Cys Ser Ser Asp Phe Asp Ala Cys Leu Ile Thr Lys Ala Gly Leu Gln

180	185	190
Val Tyr Asn Lys Cys Trp Lys Phe Glu His Cys Asn Phe Asn Asp Val		
195	200	205
Thr Thr Arg Leu Arg Glu Asn Glu Leu Thr Tyr Tyr Cys Cys Lys Lys		
210	215	220
Asp Leu Cys Asn Phe Asn Glu Gln Leu Glu Asn Gly Gly Thr Ser Leu		
225	230	235
Ser Glu Lys Thr Val Leu Leu Leu Val Thr Pro Phe Leu Ala Ala Ala		
245	250	255
Trp Ser Leu His Pro		
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 aacgaacagc ttgaaaatgg tgggacatcc ttatcagaga aaacagttct tctgctggtg 780
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 <212> DNA
 <213> human

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 <211> 260
 <212> PRT
 <213> human

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 Pro Ala Val Val Leu Ala Ser Ser Arg Gly Ile Ala Ser Phe Val Cys
 35 40 45
 Glu Tyr Ala Ser Pro Gly Lys Ala Thr Glu Val Arg Val Thr Val Leu
 50 55 60

Arg Gln Ala Asp Ser Gln Val Thr Glu Val Cys Ala Ala Thr Tyr Met
65 70 75 80

Thr Gly Asn Glu Leu Thr Phe Leu Asp Asp Ser Ile Cys Thr Gly Thr
85 90 95

Ser Ser Gly Asn Gln Val Asn Leu Thr Ile Gln Gly Leu Arg Ala Met
100 105 110

Asp Thr Gly Leu Tyr Ile Cys Lys Val Glu Leu Met Tyr Pro Pro Pro
115 120 125

Tyr Tyr Leu Gly Ile Gly Asn Gly Thr Gln Ile Tyr Val Ile Asp Pro
130 135 140

Glu Pro Cys Pro Asp Ser Asp Ala Ser Ala Ser Ala Ser Leu Gln Cys
145 150 155 160

Tyr Asn Cys Pro Asn Pro Thr Ala Asp Cys Lys Thr Ala Val Asn Cys
165 170 175

Ser Ser Asp Phe Asp Ala Cys Leu Ile Thr Lys Ala Gly Leu Gln Val
180 185 190

Tyr Asn Lys Cys Trp Lys Phe Glu His Cys Asn Phe Asn Asp Val Thr
195 200 205

Thr Arg Leu Arg Glu Asn Glu Leu Thr Tyr Tyr Cys Cys Lys Lys Asp
210 215 220

Leu Cys Asn Phe Asn Glu Gln Leu Glu Asn Gly Gly Thr Ser Leu Ser
225 230 235 240

Glu Lys Thr Val Leu Leu Leu Val Thr Pro Phe Leu Ala Ala Ala Trp
245 250 255

Ser Leu His Pro
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<213> human

<400> 14

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Pro Ala Val Val Leu Ala Ser Ser Arg Gly Ile Ala Ser Phe Val Cys
35 40 45

Glu Tyr Ala Ser Pro Gly Lys Ala Thr Glu Val Arg Val Thr Val Leu
50 55 60

Arg Gln Ala Asp Ser Gln Val Thr Glu Val Cys Ala Ala Thr Tyr Met
65 70 75 80

Thr Gly Asn Glu Leu Thr Phe Leu Asp Asp Ser Ile Cys Thr Gly Thr
85 90 95

Ser Ser Gly Asn Gln Val Asn Leu Thr Ile Gln Gly Leu Arg Ala Met
100 105 110

Asp Thr Gly Leu Tyr Ile Cys Lys Val Glu Leu Met Tyr Pro Pro Pro
115 120 125

Tyr Tyr Leu Gly Ile Gly Asn Gly Thr Gln Ile Tyr Val Ile Asp Pro
130 135 140

Glu Pro Cys Pro Asp Ser Asp Ala Ser Ala Ser Ala Ser Leu Gln Cys
145 150 155 160

Tyr Asn Cys Pro Asn Pro Thr Ala Asp Cys Lys Thr Ala Val Asn Cys
165 170 175

Ser Ser Asp Phe Asp Ala Cys Leu Ile Thr Lys Ala Gly Leu Gln Val
180 185 190

Tyr Asn Lys Cys Trp Lys Phe Glu His Cys Asn Phe Asn Asp Val Thr
195 200 205

Thr Arg Leu Arg Glu Asn Glu Leu Thr Tyr Tyr Cys Cys Lys Lys Asp

210	215	220
Leu Cys Asn Phe Asn Glu Gln Leu Glu Asn Gly Gly Thr Ser Leu Ser		
225	230	235 240
Glu Lys Thr Val Leu Leu Leu Val Thr Pro Phe Leu Ala Ala Ala Trp		
	245	250 255
Ser Leu His Pro		
260		

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 <212> DNA
 <213> porcine

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<210> 17
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<212> PRT
<213> porcine

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<400> 17

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Ser Arg Thr Trp Pro Cys Thr Ala Leu Phe Ser Leu Leu Phe Ile Pro
          20          25          30

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Val Phe Ser Lys Gly Met His Val Ala Gln Pro Ala Val Val Leu Ala
          35          40          45

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Asn Ser Arg Gly Val Ala Ser Phe Val Cys Glu Tyr Gly Ser Ala Gly
          50          55          60

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Lys Ala Ala Glu Val Arg Val Thr Val Leu Arg Arg Ala Gly Ser Gln
65          70          75          80

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Met Thr Glu Val Cys Ala Ala Thr Tyr Thr Val Glu Asp Glu Leu Thr
          85          90          95

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Phe Leu Asp Asp Ser Thr Cys Thr Gly Thr Ser Thr Glu Asn Lys Val
          100          105          110

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Asn Leu Thr Ile Gln Gly Leu Arg Ala Val Asp Thr Gly Leu Tyr Ile
          115          120          125

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Cys Lys Val Glu Leu Leu Tyr Pro Pro Pro Tyr Tyr Val Gly Met Gly
 130 135 140

Asn Gly Thr Gln Ile Tyr Val Ile Asp Pro Glu Pro Cys Pro Asp Ser
 145 150 155 160

Asp Phe Leu Leu Trp Ile Leu Ala Thr Val Ser Ser Gly Leu Phe Phe
 165 170 175

Tyr Ser Phe Leu Ile Thr Ala Val Ser Leu Ser Lys Met Leu Lys Lys
 180 185 190

Arg Ser Pro Leu Thr Thr Gly Val Tyr Val Lys Asn Ala Pro Thr Glu
 195 200 205

Pro Glu Cys Glu Lys Gln Phe Gln Pro Tyr Phe Ile Pro Ile Asn
 210 215 220

<210> 18
 <211> 223
 <212> PRT
 <213> human

<400> 18

Met Ala Cys Leu Gly Phe Gln Arg His Lys Ala Gln Leu Asn Leu Ala
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Ala Arg Thr Trp Pro Cys Thr Leu Leu Phe Phe Leu Leu Phe Ile Pro
 20 25 30

Val Phe Cys Lys Ala Met His Val Ala Gln Pro Ala Val Val Leu Ala
 35 40 45

Ser Ser Arg Gly Ile Ala Ser Phe Val Cys Glu Tyr Ala Ser Pro Gly
 50 55 60

Lys Ala Thr Glu Val Arg Val Thr Val Leu Arg Gln Ala Asp Ser Gln
 65 70 75 80

Val Thr Glu Val Cys Ala Ala Thr Tyr Met Thr Gly Asn Glu Leu Thr
 85 90 95

Phe Leu Asp Asp Ser Ile Cys Thr Gly Thr Ser Ser Gly Asn Gln Val
100 105 110

Asn Leu Thr Ile Gln Gly Leu Arg Ala Met Asp Thr Gly Leu Tyr Ile
115 120 125

Cys Lys Val Glu Leu Met Tyr Pro Pro Pro Tyr Tyr Leu Gly Ile Gly
130 135 140

Asn Gly Thr Gln Ile Tyr Val Ile Asp Pro Glu Pro Cys Pro Asp Ser
145 150 155 160

Asp Phe Leu Leu Trp Ile Leu Ala Ala Val Ser Ser Gly Leu Phe Phe
165 170 175

Tyr Ser Phe Leu Leu Thr Ala Val Ser Leu Ser Lys Met Leu Lys Lys
180 185 190

Arg Ser Pro Leu Thr Thr Gly Val Tyr Val Lys Met Pro Pro Thr Glu
195 200 205

Pro Glu Cys Glu Lys Gln Phe Gln Pro Tyr Phe Ile Pro Ile Asn
210 215 220

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<211> 672
<212> DNA
<213> human

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cccatcaatt ga 672

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<213> human

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<210> 21
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<212> PRT
<213> human

<400> 21

Met Ala Cys Leu Gly Phe Gln Arg His Lys Ala Gln Leu Asn Leu Ala
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20 25 30

Val Phe Cys Lys Ala Met His Val Ala Gln Pro Ala Val Val Leu Ala
35 40 45

Ser Ser Arg Gly Ile Ala Ser Phe Val Cys Glu Tyr Ala Ser Pro Gly

50 55 60
 Lys Ala Thr Glu Val Arg Val Thr Val Leu Arg Gln Ala Asp Ser Gln
 65 70 75 80
 Val Thr Glu Val Cys Ala Ala Thr Tyr Met Thr Gly Asn Glu Leu Thr
 85 90 95
 Phe Leu Asp Asp Ser Ile Cys Thr Gly Thr Ser Ser Gly Asn Gln Val
 100 105 110
 Asn Leu Thr Ile Gln Gly Leu Arg Ala Met Asp Thr Gly Leu Tyr Ile
 115 120 125
 Cys Lys Val Glu Leu Met Tyr Pro Pro Pro Tyr Tyr Leu Gly Ile Gly
 130 135 140
 Asn Gly Thr Gln Ile Tyr Val Ile Asp Pro Glu Pro Cys Pro Asp Ser
 145 150 155 160
 Asp Phe Leu Leu Trp Ile Leu Ala Ala Val Ser Ser Gly Leu Phe Phe
 165 170 175
 Tyr Ser Phe Leu Leu Thr Ala Val Ser Leu Ser Lys Met Leu Lys Lys
 180 185 190
 Arg Ser Pro Leu Thr Thr Gly Val Tyr Val Lys Met Pro Pro Thr Glu
 195 200 205
 Pro Glu Cys Glu Lys Gln Phe Gln Pro Tyr Phe Ile Pro Ile Asn
 210 215 220
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Val Phe Ser Lys Gly Met His Val Ala Gln Pro Ala Val Val Leu Ala
 35 40 45

Asn Ser Arg Gly Val Ala Ser Phe Val Cys Glu Tyr Gly Ser Ala Gly
 50 55 60

Lys Ala Ala Glu Val Arg Val Thr Val Leu Arg Arg Ala Gly Ser Gln
 65 70 75 80

Met Thr Glu Val Cys Ala Ala Thr Tyr Thr Val Glu Asp Glu Leu Thr
 85 90 95

Phe Leu Asp Asp Ser Thr Cys Thr Gly Thr Ser Thr Glu Asn Lys Val
 100 105 110

Asn Leu Thr Ile Gln Gly Leu Arg Ala Val Asp Thr Gly Leu Tyr Ile
 115 120 125

Cys Lys Val Glu Leu Leu Tyr Pro Pro Pro Tyr Tyr Val Gly Met Gly
 130 135 140

Asn Gly Thr Gln Ile Tyr Val Ile Asp Pro Glu Pro Cys Pro Asp Ser
 145 150 155 160

Asp Phe Leu Leu Trp Ile Leu Ala Thr Val Ser Ser Gly Leu Phe Phe
 165 170 175

Tyr Ser Phe Leu Ile Thr Ala Val Ser Leu Ser Lys Met Leu Lys Lys
 180 185 190

Arg Ser Pro Leu Thr Thr Gly Val Tyr Val Lys Asn Ala Pro Thr Glu
 195 200 205

Pro Glu Cys Glu Lys Gln Phe Gln Pro Tyr Phe Ile Pro Ile Asn
 210 215 220

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Asn Pro Thr Ala Asp Cys Lys Thr Ala Val Asn Cys Ser Ser Asp Phe
 35 40 45

Asp Ala Cys Leu Ile Thr Lys Ala Gly Leu Gln Val Tyr Asn Lys Cys
50 55 60

Trp Lys Phe Glu His Cys Asn Phe Asn Asp Val Thr Thr Arg Leu Arg
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Glu Asn Glu Leu Thr Tyr Tyr Cys Cys Lys Lys Asp Leu Cys Asn Phe
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Asn Glu Gln Leu Glu Asn Gly Gly Thr Ser Leu Ser Glu Lys Thr Val
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Asn Pro Thr Ala Asp Cys Lys Thr Ala Val Asn Cys Ser Ser Asp Phe
35 40 45

Asp Ala Cys Leu Ile Thr Lys Ala Gly Leu Gln Val Tyr Asn Lys Cys
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Trp Lys Phe Glu His Cys Asn Phe Asn Asp Val Thr Thr Arg Leu Arg
65 70 75 80

Glu Asn Glu Leu Thr Tyr Tyr Cys Cys Lys Lys Asp Leu Cys Asn Phe
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Asn Glu Gln Leu Glu Asn Gly Gly Thr Ser Leu Ser Glu Lys Thr Val
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Glu Leu Pro Arg Leu Leu Leu Val Leu Leu Cys Leu Pro Ala Val
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Trp Gly Asp Cys Gly Leu Pro Pro Asp Val Pro Asn Ala Gln Pro Ala
 35 40 45

Leu Glu Gly Arg Thr Ser Phe Pro Glu Asp Thr Val Ile Thr Tyr Lys
 50 55 60

Cys Glu Glu Ser Phe Val Lys Ile Pro Gly Glu Lys Asp Ser Val Ile
 65 70 75 80

Cys Leu Lys Gly Ser Gln Trp Ser Asp Ile Glu Glu Phe Cys Asn Arg
 85 90 95

Ser Cys Glu Val Pro Thr Arg Leu Asn Ser Ala Ser Leu Lys Gln Pro
 100 105 110

Tyr Ile Thr Gln Asn Tyr Phe Pro Val Gly Thr Val Val Glu Tyr Glu
 115 120 125

Cys Arg Pro Gly Tyr Arg Arg Glu Pro Ser Leu Ser Pro Lys Leu Thr
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Cys Leu Gln Asn Leu Lys Trp Ser Thr Ala Val Glu Phe Cys Lys Lys
 145 150 155 160

Lys Ser Cys Pro Asn Pro Gly Glu Ile Arg Asn Gly Gln Ile Asp Val
 165 170 175

Pro Gly Gly Ile Leu Phe Gly Ala Thr Ile Ser Phe Ser Cys Asn Thr
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Gly Tyr Lys Leu Phe Gly Ser Thr Ser Ser Phe Cys Leu Ile Ser Gly
 195 200 205

Ser Ser Val Gln Trp Ser Asp Pro Leu Pro Glu Cys Arg Glu Ile Tyr
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Cys Pro Ala Pro Pro Gln Ile Asp Asn Gly Ile Ile Gln Gly Glu Arg
 225 230 235 240

Asp His Tyr Gly Tyr Arg Gln Ser Val Thr Tyr Ala Cys Asn Lys Gly
 245 250 255

Phe Thr Met Ile Gly Glu His Ser Ile Tyr Cys Thr Val Asn Asn Asp
 260 265 270

Glu Gly Glu Trp Ser Gly Pro Pro Pro Glu Cys Arg Gly Lys Ser Leu
 275 280 285

Thr Ser Lys Val Pro Pro Thr Val Gln Lys Pro Thr Thr Val Asn Val
 290 295 300

Pro Thr Thr Glu Val Ser Pro Thr Ser Gln
 305 310